EXHIBIT A
IEEE 100, The Authoritative Dictionary of IEEE Standards Terms (7th ed., 2000)

IEEE 100

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arc-tube relaxation oscillator *See:* gas-tube relaxation oscillator.

arc voltage (gas-tube surge protective devices) (gas tube surge arresters) The voltage drop across the arrester during arc current flow. *Synonym:* arc mode voltage. (SPD/PE) C62.31-1987r, [8]

arc welder generator (generator, alternating-current arc welder) An alternating-current generator with associated reactors, regulators, control, and indicating devices required to produce alternating current suitable for arc welding.
(2) (A) **(generator-rectifier, direct-current arc welder)** A combination of static rectifiers and the associated alternating-current generator, reactors, regulators, controls, and indicating devices required to produce direct current suitable for arc welding. **(B) (generator, direct-current arc welder)** A direct-current generator with associated reactors, regulators, control, and indicating devices required to produce direct current suitable for arc welding. (EEC/AWM) [91]

arc-welding engine generator A device consisting of an engine mechanically connected to and mounted with one or more arc-welding generators. (EEC/AWM) [91]

arc-welding motor-generator A device consisting of a motor mechanically connected to and mounted with one or more arc-welding generators. (EEC/AWM) [91]

ARE *See:* all routes explorer.

area (1) (A) (data management) In CODASYL, a part of a database that can be opened or closed as a unit. *Note:* This term was used in early CODASYL documents, but is now considered deprecated. **(B) (data management)** A named collection of records within a database. *Note:* May contain occurrences of one or more record types, and a record type may have occurrences in one or more area. *Synonym:* realm. (C) 610.5-1990
(2) (image processing) The number of pixels in a region. (C) 610.4-1990w
(3) *See also:* equivalent flat plate area of a scattering object; partial effective area; effective area antenna. (AP/ANT) 145-1993

area assist action (electric power system) A control feature that bypasses economic control and that controls all available units while the area control error violates a preset limit. (PE/PSE) 94-1991w

area code (telephone switching systems) A one-, two-, or three-digit number that, for the purpose of distance dialing, designates a geographical subdivision of the territory covered by a separate national or integrated numbering plan. (COM) 312-1977w

area control error (1) (electric power system) A quantity reflecting the deficiency or excess of power within a control area. (PE/PSE) 858-1993w, 94-1991w
(2) (isolated-power system consisting of a single control area) The frequency deviation (of a control area on an interconnected system) is the net interchange minus the biased scheduled net interchange. *Note:* The above polarity is that which has been generally accepted by electric power systems and is in wide use. It is recognized that this is the reverse of the sign of control error generally used in servomechanism and control literature, which defines control error as the reference quantity minus the controlled quantity. (PE/PSE) [54]

area fill *See:* fill.

area frequency-response characteristic (control area) The sum of the change in total area generation caused by governor action and the change in total area load, both of which result from a sudden change in system frequency, in the absence of automatic control action. (PE/PSE) 94-1970w

areal beamwidth For pencil-beam antennas the product of the two principal half-power beamwidths. *See also:* principal half-power beamwidths. (AP/ANT) 145-1993

area load-frequency characteristic (control area) The change in total area load that results from a change in system frequency. (PE/PSE) 94-1970w

areal object A synthetic environment object that is geometrically anchored to the terrain with a set of at least three points that come to a closure. (C/DIS) 1278.1a-1998

area moving target indication A method of MTI based upon amplitude changes in corresponding resolution cells for radar returns obtained at different times. (AES) 686-1997

area supplementary control (electric power system) The control action applied, manually or automatically, to area generator speed governors in response to changes in system frequency, tie-line loading, or the relation of these to each other, so as to maintain the scheduled system frequency and/or the established net interchange with other control areas within predetermined limits. (PE/PSE) 94-1970w

area tie line (electric power system) A transmission line connecting two control areas. *Note:* Similar to interconnection tie. *See also:* transmission line. (PE/PSE) 94-1970w

argand plane A graphical representation of a vector used in complex number notation. (SCC20) 771-1998

Argument A value of type `Argument`. (IM/ST) 1451.1-1999

argument (1) (A) An independent variable; for example, the variable m in the equation $E = mc^2$. **(B)** A specific value of an independent variable; for example, the value $m = 24$ kg. **(C)** A constant, variable, or expression used in a call to a software module to specify data or program elements to be passed to that module. *Synonym:* actual parameter. *Contrast:* formal parameter. (C) 610.12-1990
(2) A parameter passed to a utility as the equivalent of a single string in the *argv* array created by one of the POSIX.1 *exec* functions. An argument is one of the options, option-arguments, or operands following the command name. (C/PA) 9945-2-1993
(3) Information that is passed to an interface operation or a directory operation. (C/PA) 1328.2-1993w, 1327.2-1993w, 1224.2-1993w, 1326.2-1993w
(4) An expression occurring as the actual value in a function call or procedure call. (C/DA) 1076.3-1997
(5) The value or the address of a data item passed to a function or procedure by the caller. (C/DA) 1481-1999
(6) The usual mathematical meaning. (IM/ST) 1451.1-1999

Argument Array A value of type `ArgumentArray`. (IM/ST) 1451.1-1999

ARINC *See:* Aeronautical Radio Incorporated.

arithmetic Pertaining to data that has the characteristics of base, scale, mode, and precision. *Note:* Used to represent numbers. *Contrast:* string. *See also:* decimal picture data; coded arithmetic data; binary picture data; numeric data. (C) 610.5-1990w

arithmetic and logic unit A functional component of a computer system that performs arithmetic and logical operations. *Synonym:* arithmetic-logic unit. *See also:* logic unit; arithmetic unit; exponent arithmetic and logic unit; register-arithmetic and logic unit. (C) 610.10-1994w

arithmetic check *See:* mathematical check.

arithmetic element *See:* arithmetic unit.

arithmetic expression An expression containing any combination of variables and constants joined by one or more arithmetic operators such that the expression can be reduced to a single numerical result. (C) 1084-1986w

arithmetic instruction An instruction in which the operation field specifies an arithmetical operation; for example, an add instruction or a multiply instruction. *Contrast:* logic instruction. (C) 610.10-1994w

arithmetic-logic unit *See:* arithmetic and logic unit.

arithmetic mean The numerical result obtained by dividing the sum of two or more quantities by the number of quantities. *Notes:* 1. Strictly speaking, arithmetic means of corona-effect data expressed in decibels cannot be taken unless the numbers are converted back to real units such as microvolts per meter (μV/m) or micropascals (μPa). 2. An arithmetic mean that is

instantaneous relay reoperate time Reoperate time of a thermal relay measured when the heater is de-energized at the instant of contact operation. (EEC/REE) [87]

instantaneous sampling The process for obtaining a sequence of instantaneous values of a wave. *Note:* These values are called instantaneous samples. (AP/ANT) 145-1983s

instantaneous sound pressure (at a point) The total instantaneous pressure at that point minus the static pressure at that point. *Note:* The commonly used unit is the newton per square meter. (SP) [32]

instantaneous storage *See:* immediate access storage.

instantaneous suppression with automatic current regulation (thyristor) A combination of instantaneous trip or suppression and current regulation in which suppression is followed immediately by a regulated current. (IA/IPC) 428-1981w

instantaneous trip (1) (as applied to Circuit Breakers) A qualifying term indicating that no delay is purposely introduced in the tripping action of the circuit breaker. (NESC) [86] (2) The means to sense an overload and reduce the output current to zero, as fast as practicable. (IA/IPC) 428-1981w

instantiation (software) The process of substituting specific data, instructions, or both into a generic program unit to make it usable in a computer program. (C) 610.12-1990

instant of chopping The instant when the initial discontinuity appears. (PE/PSIM) 4-1995

instant start fluorescent lamp (illuminating engineering) A fluorescent lamp designed for starting by a high voltage without preheating of the electrodes. (EEC/IE) [126]

Institute of Electrical and Electronics Engineers (1) An organization that, among other functions, sponsors standards development. (C/BA) 14536-1995 (2) An international professional organization that is accredited by American National Standards Institute to develop standards for them. (C) 610.7-1995, 610.10-1994w

institutional design Emphasizes reliability, resistance to wear and use, safety to public, and special aesthetic considerations, such as the "agelessness" of the structure. (IA/PSE) 241-1990r

instruction (1) (programmable digital computer systems in safety systems of nuclear power generating stations) A meaningful expression in a computer programming language that specifies an operation to a digital computer. 554-1990 (2) **(btl interface circuits)** A binary data word shifted serially into the test logic defined by this standard in order to define its subsequent operation. (TT/C) 1149.1-1990 (3) **(software)** *See also:* computer instruction. (C) 610.12-1990 (4) A statement or expression consisting of an operation and its operands (if any), which can be interpreted by a computer in order to perform some function or operation. *See also:* computer instruction; microinstruction; macroinstruction. (C) 610.10-1994w

instruction address (A) The address of an instruction. **(B)** The address that must be used to fetch an instruction. (C) 610.10-1994

instruction address register An address register used to hold the address of an instruction. *Synonyms:* instruction pointer register; program register. *See also:* P register. (C) 610.10-1994w

instruction address stop An instruction address that, when it is fetched, causes execution to stop. *See also:* address stop. (C) 610.10-1994w

instructional character *See:* control character.

instructional game An instruction method employed by some computer-assisted instruction systems, in which a game is used to instruct the student on some subject. *Contrast:* simulation. (C) 610.2-1987

instructional simulation (modeling and simulation) A simulation intended to provide an opportunity for learning or to evaluate learning or educational potential; for example, a simulation in which a mock-up of an airplane cockpit is used to train student pilots. *Synonyms:* academic simulation; tutorial simulation. (C) 610.3-1989w

instruction cache A cache that stores instructions for fast access by the processor. *Contrast:* data cache. (C) 610.10-1994w

instruction code *See:* computer instruction code.

instruction control unit In a processor, the part that retrieves instructions in proper sequence, interprets each instruction, and applies the proper signals to the arithmetic and logic unit and other parts in accordance with this interpretation. *Synonym:* computer control unit. (C) 610.10-1994w

instruction counter (IC) (software) A register that indicates the location of the next computer instruction to be executed. *Synonym:* program counter. (C) 610.12-1990

instruction cycle (software) The process of fetching a computer instruction from memory and executing it. *See also:* instruction time. (C) 610.12-1990, 610.10-1994w

instruction decoder (A) The portion of the computer that determines which functions of the execution unit and the operand handler must be performed to execute the instruction. *Note:* Often implemented as part of the instruction fetch unit. **(B)** A functional component that analyzes the operation to be performed, as indicated in an instruction. *See also:* instruction processor. (C) 610.10-1994

instruction fetch unit The portion of a computer that reads the next instruction word from memory and converts the commands to the internal format used by the instruction decoder. (C) 610.10-1994w

instruction field A bit field within an instruction word. (C/MM) 1754-1994

instruction format The number and arrangement of the fields (operand, operation, and address) in a computer instruction. *See also:* address format. (C) 610.10-1994w, 610.12-1990

instruction length (software) The number of words, bytes, or bits needed to store a computer instruction. (C) 610.12-1990

instruction modifier (software) A word or part of a word used to alter a computer instruction. (C) 610.12-1990

instruction pointer register *See:* instruction address register.

instruction processor A functional component that carries out the action indicated by the instruction decoder, resulting in a possible change of machine or data state; for example, instruction decision and execution. (C) 610.10-1994w

instruction register A register that is used to hold an instruction for interpretation. (C) 610.10-1994w

instruction repertoire *See:* instruction set.

instruction set The complete set of instructions recognized by a given computer or provided by a given programming language. *Note:* In computer hardware, this term is considered to be synonymous with a computer's architecture. *Synonym:* instruction repertoire. *See also:* computer instruction set. (C) 610.10-1994w, 610.12-1990

instruction set architecture (1) (software) An abstract machine characterized by an instruction set. *See also:* abstract machine; instruction set. (C/SE) 729-1983s (2) An ISA defines instructions, registers, instruction and data memory, the effect of executed instructions on the registers and memory, and an algorithm for controlling instruction execution. An ISA does not define clock-cycle times, cycles per instruction, data paths, etc. This standard defines an ISA. (C/MM) 1754-1994

instruction time (1) (software) The time it takes a computer to fetch an instruction from memory and execute it. *See also:* instruction cycle. (C) 610.12-1990, 610.10-1994w (2) The time it takes to perform one instruction cycle. (C) 610.10-1994w

instruction trace *See:* trace.

instruction word A word that represents an instruction. *See also:* very long instruction word. (C) 610.10-1994w

instrument (1) (plutonium monitoring) A complete system designed to quantify a particular type of ionizing radiation. (NI) N317-1980i